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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,383	03/31/2006	Hironari Akashi	MAT-8823US	2319

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EXAMINER	
BAYOU, AMENE SETEGNE	
ART UNIT	PAPER NUMBER
3746	
MAIL DATE	DELIVERY MODE
06/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/574,383	AKASHI ET AL.	
	Examiner	Art Unit	
	AMENE S. BAYOU	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 October 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/20/09 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3,5-18 are rejected under 35 U.S.C 103(a) as being unpatentable over Kojima et al. (US patent publication number 6547538) in view of Sasaki et al. (US patent number 6727627 which is an equivalent to WO01/06624) or Shafer et al. (US patent 7183683).

4. In re claim 1, Kojima et al disclose an electric compressor including:

- A hermetic compressor ,in figure 3,comprising :a hermetic container (101) ;a motor element (203) accommodated in the hermetic container (101) ; and a compressing element (109) that is accommodated in the hermetic container (101) and driven by the motor element (303) , wherein the compressing element (110) has a shaft including an eccentric shaft (117) and a main shaft (116), and

a main bearing (320) for pivoting the main shaft (116) , the motor element is a bipolar permanent magnet motor (paragraph [0052]) that has a stator (113) including a stator core and a rotor (315) including a rotor core ,the rotor (315) having a built-in permanent magnet (315a) in a rotor core (315) , a hollow bore (306 extends from a top end, the bottom end the top end on the compressing element side of the rotor core. Kojima et al ,however fail to disclose the following limitation which is taught by Sasaki et al:

- An axial length of the permanent magnet (45) being less than the axial length of the rotor core (42), the permanent magnet is positioned in the rotor core so that it extends from a bottom end opposite the top end of the rotor ,in figure 18.

Alternatively Shafer et al. disclose:

- An axial length of the permanent magnet (310) being less than the axial length of the rotor core (330), the permanent magnet (310) is positioned in the rotor core so that it extends from a bottom end opposite the top end of the rotor, in figure 8.

5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the compressor of Kojima et al et al by making the axial length of the permanent magnet to be less than that of the rotor core as taught by Sasaki et al or Shafer et al in order to reduce the size of the compressor. Please note that Shafer et al disclosed that the motor structure can be used in driving compressor (column 1,lines 13-24).

6. In re claim 2 Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 1 disclose the claimed invention:

Kojima et al disclose:

- Axial length of the rotor core (315) is longer than axial length of a stator core (113) of the stator, hence the wide magnetic path is provided to smooth the flow of the magnetic flux by the permanent magnet, in figure 3.

7. In re claim 3, Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 2 disclose the claimed invention:

Kojima et al disclose:

- Both axial ends of the rotor core (115) are disposed outside both axial ends of the stator core (113), respectively, in figure 3.

8. In re claim 5, Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 2 disclose the claimed invention:

Kojima et al disclose:

- Axial length of the permanent magnet (115a) is shorter than axial length of the rotor core (115), and the permanent magnet covers a region having no bore in the axial direction of the rotor, in figure 1.

9. In re claim 6, Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 2 disclose the claimed invention:

Kojima et al disclose:

- The rotor core (315) has a cylindrical through hole having a first diameter into which the shaft (104) is inserted, the bore is a cylindrical recessed part that is formed in the upper part of the through hole and has a second diameter (306) larger than the first diameter (i.e. the diameter that fits shaft 104) ,the permanent

magnet (315a) has an axial length shorter than the axial length of the rotor core (315) , and covers a region of the first diameter in the rotor in an axial direction of the rotor core, in figure 3 and 4.

10. In re claim 7, Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 1 disclose the claimed invention:

Kojima et al disclose:

- The main bearing (120), in figure 3, is made of magnetic material (paragraph [0039]), and the wide magnetic path is provided (i.e. due to the fact that axial length of the rotor core is longer than axial length of a stator core of the stator as shown in figure 3 and also discussed in claim 2 above) to smooth the flow of the magnetic flux by the permanent magnet.

11. In re claim 8, Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 7 disclose the claimed invention:

Kojima et al.'094 disclose:

- The main bearing (120) is one of a casting and a molded product that is made of iron- based sintered material, in paragraph [0039]). Please note that in accordance to MPEP 2113, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. Please also note that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product, i.e., the main bearing,

does not depend on its method of production, i.e. ----. ***In re Thorpe, 227 USPQ 964, 966 (Federal Circuit 1985).***

12. In re claim 9 and 13, Kojima et al in view of Sasaki et al or Shafer et al disclose the claimed invention except mentioning that the axial length of the bore is 1/3 of axial length of the rotor core or more. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the proper axial length of the bore based to get the practical compressor size, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

13. In re claim 10 and 14, Kojima et al in view of Sasaki et al or Shafer et al disclose the claimed invention except mentioning that the clearance between the surface of the bore and the Outer diameter of the main bearing is 0.5 to 3 mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the proper clearance based on design parameters, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

14. In re claim 11,15,16, Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 1 inherently disclose that the motor element is a self-starting permanent magnet synchronous motor (see Kojima et al paragraph [0044]) the motor element has many conductor bars (inherently) of a cage conductor for start on the outer periphery of the

rotor core, and the permanent magnet is disposed in the inner peripheral side of the conductor bars.

15. In re claim 12, 17,18 Kojima et al in view of Sasaki et al or Shafer et al as applied to claim 1disclose the claimed invention:

Kojima et al disclose:

- The permanent magnet (315a) is a rare-earth magnet, in paragraph [0052],lines 5-7.

Response to Arguments

16. Applicant's arguments with respect to claims 1 -18, filed have been considered but are not persuasive.

17. Applicant in page 2,paragraphs 4 and 5 argues that his invention as shown in figure 4 discloses a permanent magnet extending from the bottom end of the rotor core while Sasaki et al fails to disclose a magnet 45 extending from a bottom end of the rotor core 42.Examiner respectfully disagrees since figure 4 of applicant's disclosure shows the bore that holds the permanent magnets is extending from the bottom of the rotor but the permanent magnets do not extend from the bottom surface of the rotor. Thus one can compare figure 18 of Sasaki et al and figure 4 of applicant's disclosure and clearly see that both show a permanent magnet shorter in length than the rotor. If chooses to do so however, one skilled in the art can install the permanent magnets starting from the surface of the bottom surface (which is also taught by the newly cited reference Shafer et al.

18. Applicant in page 2 last paragraph and paragraph 1 of page 3 further argued that Kojima (citing figure 2) disclose a permanent magnet extending the (whole) length of a rotor and Kojima disclose a permanent magnet which does not extend from either side of the rotor core .Again Examiner respectfully disagrees since as clearly pointed out in the previous and the current office action figure 3 of Kojima clearly show that the permanent magnet does not extend the whole length of the rotor and the permanent magnets also extend from either side of the rotor.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amene S. Bayou whose telephone number is 571-270-3214. The examiner can normally be reached on Monday-Thursday,9:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art Unit 3746